

## **A conservation paradox in the Great Basin-altering sagebrush landscapes with fuel breaks to reduce habitat loss from wildfire**

[www.nrfirescience.org/resource/17420](http://www.nrfirescience.org/resource/17420)

Interactions between fire and nonnative, annual plant species (that is, 'the grass/fire cycle') represent one of the greatest threats to sagebrush (*Artemisia* spp.) ecosystems and associated wildlife, including the greater sage-grouse (*Centrocercus urophasianus*). In 2015, U.S. Department of the Interior called for a 'science-based...

Author(s): Douglas J. Shinneman, Cameron L. Aldridge, Peter S. Coates, Matthew J. Germino, David S. Pilliod, Nicole M. Vaillant

Year Published: 2018

Type: Document

Technical Report or White Paper

## **Effects of prescribed fire on wildlife and wildlife habitat in selected ecosystems of North America**

[www.nrfirescience.org/resource/14715](http://www.nrfirescience.org/resource/14715)

Prescribed fire is applied widely as a management tool in North America to meet various objectives such as reducing fuel loads and fuel continuity, returning fire to an ecosystem, enhancing wildlife habitats, improving forage, preparing seedbeds, improving watershed conditions, enhancing nutrient cycling, ...

Author(s): William M. Block, L. Mike Conner, Paul A. Brewer, Paulette Ford, Jonathan Haufler, Andrea Litt, Ronald E. Masters, Laura R. Mitchell, Jane Park

Year Published: 2016

Type: Document

Technical Report or White Paper

## **Short-term impacts of fire-mediated habitat alterations on an isolated bighorn sheep population**

[www.nrfirescience.org/resource/14889](http://www.nrfirescience.org/resource/14889)

Habitat alterations may improve and expand wildlife habitats, and bolster waning wildlife populations. We used global positioning system (GPS) locations to monitor 38 bighorn sheep (*Ovis canadensis* Shaw) that were translocated to the Seminoe Mountains, Wyoming, USA, in 2009 and 2010, and 24 bighorns captured in 2011 to investigate...

Author(s): Justin G. Clapp, Jeffrey L. Beck

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

## **Burned forest characterization at single-tree level with airborne laser scanning for assessing wildlife habitat**

[www.nrfirescience.org/resource/14180](http://www.nrfirescience.org/resource/14180)

Abundance, size, and spatial distribution of standing dead trees (snags), are key indicators of forest biodiversity and ecosystem health. These metrics represent critical habitat components for various wildlife species of conservation concern, including the Black-backed Woodpecker (*Picoides arcticus*), which is strongly associated...

Author(s): Angeles Casas, Mariano Garcia, Rodney B. Siegel, Alexander Koltunov, Carlos Ramirez, Susan L. Ustin

Year Published: 2016

Type: Document

Book or Chapter or Journal Article

## **Too hot to trot? Evaluating the effects of wildfire on patterns of occupancy and abundance for a**

### **climate-sensitive habitat specialist**

[www.nrfirescience.org/resource/13185](http://www.nrfirescience.org/resource/13185)

Wildfires are increasing in frequency and severity as a result of climate change in many ecosystems; however, effects of altered disturbance regimes on wildlife remain poorly quantified. Here, we leverage an unexpected opportunity to investigate how fire affects the occupancy and abundance of a climate-sensitive habitat specialist,...

Author(s): Johanna Varner, Mallory S. Lambert, Joshua J. Horns, Sean Laverty, Laurie Dizney, Erik A. Beever, M. Denise Dearing

Year Published: 2015

Type: Document

Book or Chapter or Journal Article

### **Quantifying and predicting fuels and the effects of reduction treatments along successional and invasion gradients in sagebrush habitats - JFSP final report**

[www.nrfirescience.org/resource/15504](http://www.nrfirescience.org/resource/15504)

Sagebrush shrubland ecosystems in the Great Basin are prime examples of how altered successional trajectories can create dynamic fuel conditions and, thus, increase uncertainty about fire risk and behavior. Although fire is a natural disturbance in sagebrush, post-fire environments are highly susceptible to conversion to an invasive...

Author(s): Douglas J. Shinneman, David S. Pilliod, Robert S. Arkle, Nancy F. Glenn

Year Published: 2015

Type: Document

Technical Report or White Paper

### **Preliminary resource vulnerability assessment**

[www.nrfirescience.org/resource/13409](http://www.nrfirescience.org/resource/13409)

This document is an assessment of the FS Northern Region's key water resources, tree species, wildlife species, and disturbances, which includes descriptions of the species' current condition, existing stressors, sensitivity to and expected effects of climate changes, and adaptive capacity.

Author(s): Northern Region Adaptation Partnership

Year Published: 2014

Type: Document

Technical Report or White Paper

### **A technical guide for monitoring wildlife habitat**

[www.nrfirescience.org/resource/12383](http://www.nrfirescience.org/resource/12383)

Information about status and trend of wildlife habitat is important for the U.S. Department of Agriculture, Forest Service to accomplish its mission and meet its legal requirements. As the steward of 193 million acres (ac) of Federal land, the Forest Service needs to evaluate the status of wildlife habitat and how it compares with...

Author(s): Mary M. Rowland, Christina D. Vojta

Year Published: 2013

Type: Document

Technical Report or White Paper

### **The magnificent high-elevation five-needle white pines: ecological roles and future outlook**

[www.nrfirescience.org/resource/11895](http://www.nrfirescience.org/resource/11895)

The High Five symposium is devoted to exchanging information about a small group of pines with little commercial value but great importance to the ecology of high-mountain ecosystems of the West. These High Five pines include the subalpine and treeline species-whitebark (*Pinus albicaulis*), Rocky Mountain bristlecone (*P. aristata*),...

Author(s): Diana F. Tomback, Peter Achuff, Anna W. Schoettle, John W. Schwandt, Ron J. Mastrogiuseppe  
Year Published: 2011  
Type: Document  
Conference Proceedings, Synthesis

### **The beauty of a burned forest**

[www.nrfirescience.org/resource/14506](http://www.nrfirescience.org/resource/14506)

In the Northern Rockies, forests that have escaped fire are rare. In the Crown, fire is just as important as rainfall and sunlight are to plants and animals. For the vast majority of forest types within the region, the predominant fire regime is one of infrequent, intense, stand-replacement fires—not one of...

Author(s): Richard L. Hutto  
Year Published: 2011  
Type: Document  
Research Brief or Fact Sheet

### **Woodpecker habitat after the fire**

[www.nrfirescience.org/resource/13508](http://www.nrfirescience.org/resource/13508)

Public land managers are asked to minimize fuel levels after fires, including using techniques such as salvage logging. They are also responsible for maintaining suitable wildlife habitat, especially for species of concern to state and federal agencies. An area where these responsibilities could conflict is in the use of salvage...

Author(s): Victoria A. Saab  
Year Published: 2011  
Type: Document  
Research Brief or Fact Sheet

### **Amphibian responses to wildfire in the western United States: emerging patterns from short-term studies**

[www.nrfirescience.org/resource/8285](http://www.nrfirescience.org/resource/8285)

The increased frequency and severity of large wildfires in the western United States is an important ecological and management issue with direct relevance to amphibian conservation. Although the knowledge of fire effects on amphibians in the region is still limited relative to most other vertebrate species, we reviewed the current...

Author(s): Blake R. Hossack, David S. Pilliod  
Year Published: 2011  
Type: Document  
Book or Chapter or Journal Article, Synthesis

### **Indirect effects of fire severity on avian communities in ponderosa pine and aspen forests in western North America: a review**

[www.nrfirescience.org/resource/8365](http://www.nrfirescience.org/resource/8365)

description

Author(s): Kerri T. Vierling, Leigh B. Lentile  
Year Published: 2008  
Type: Document  
Book or Chapter or Journal Article

### **Developing statistical wildlife habitat relationships for assessing cumulative effects of fuels treatments - Final Report to the Joint Fire Science Program**

[www.nrfirescience.org/resource/11160](http://www.nrfirescience.org/resource/11160)

The primary weakness in our current ability to evaluate future landscapes in terms of wildlife lies in the lack of quantitative models linking wildlife to forest stand conditions, including fuels treatments. This project focuses on 1) developing statistical wildlife habitat relationships models (WHR) utilizing Forest Inventory and...

Author(s): Samuel A. Cushman, Kevin S. McKelvey

Year Published: 2006

Type: Document

Technical Report or White Paper

### **Changes in downed wood and forest structure after prescribed fire in ponderosa pine forests**

[www.nrfirescience.org/resource/11002](http://www.nrfirescience.org/resource/11002)

Most prescribed fire plans focus on reducing wildfire hazards with little consideration given to effects on wildlife populations and their habitats. To evaluate effectiveness of prescribed burning in reducing fuels and to assess effects of fuels reduction on wildlife, we began a large-scale study known as the Birds and Burns Network...

Author(s): Victoria A. Saab, Lisa Bate, John F. Lehmkuhl, Brett G. Dickson, Scott Story, Stephanie Jentsch, William M. Block

Year Published: 2006

Type: Document

Conference Proceedings

### **Snag longevity in relation to wildfire and postfire salvage logging**

[www.nrfirescience.org/resource/8142](http://www.nrfirescience.org/resource/8142)

Snags create nesting, foraging, and roosting habitat for a variety of wildlife species. Removal of snags through postfire salvage logging reduces the densities and size classes of snags remaining after wildfire. We determined important variables associated with annual persistence rates (the probability a snag remains standing from 1...

Author(s): Robin E. Russell, Victoria A. Saab, Jonathan G. Dudley, Jay J. Rotella

Year Published: 2006

Type: Document

Book or Chapter or Journal Article

### **Wildlife and invertebrate response to fuel reduction treatments in dry coniferous forests of the Western United States: a synthesis**

[www.nrfirescience.org/resource/11192](http://www.nrfirescience.org/resource/11192)

This paper synthesizes available information on the effects of hazardous fuel reduction treatments on terrestrial wildlife and invertebrates in dry coniferous forest types in the West. We focused on thinning and/or prescribed fire studies in ponderosa pine (*Pinus ponderosa*) and dry-type Douglas-fir (*Pseudotsuga menziesii*), lodgepole...

Author(s): David S. Pilliod, Evelyn L. Bull, Jane L. Hayes, Barbara C. Wales

Year Published: 2006

Type: Document

Synthesis, Technical Report or White Paper

### **The role of fire in structuring sagebrush habitats and bird communities**

[www.nrfirescience.org/resource/15408](http://www.nrfirescience.org/resource/15408)

Fire is a dominant and highly visible disturbance in sagebrush (*Artemisia* spp.) ecosystems. In lower elevation, xeric sagebrush communities, the role of fire has changed in recent decades from an infrequent disturbance maintaining a landscape mosaic and facilitating community processes to frequent events that alter sagebrush...

Author(s): Steve Knick, Aaron L. Holmes, Richard F. Miller  
Year Published: 2005  
Type: Document  
Book or Chapter or Journal Article

### **Variation in fire regimes of the Rocky Mountains: implications for avian communities and fire management**

[www.nrfirescience.org/resource/8144](http://www.nrfirescience.org/resource/8144)

Information about avian responses to fire in the U.S. Rocky Mountains is based solely on studies of crown fires. However, fire management in this region is based primarily on studies of low-elevation ponderosa pine (*Pinus ponderosa*) forests maintained largely by frequent understory fires. In contrast to both of these trends, most...

Author(s): Victoria A. Saab, Hugh D. W. Powell, Natasha B. Kotliar, Karen R. Newlon  
Year Published: 2005  
Type: Document  
Book or Chapter or Journal Article, Synthesis

### **Incorporating wildlife habitat needs into restoration and rehabilitation projects**

[www.nrfirescience.org/resource/11119](http://www.nrfirescience.org/resource/11119)

Description not entered

Author(s): Richard Stevens  
Year Published: 2004  
Type: Document  
Technical Report or White Paper

### **Forbs for seeding range and wildlife habitats**

[www.nrfirescience.org/resource/11120](http://www.nrfirescience.org/resource/11120)

Description not entered

Author(s): Richard Stevens, Stephen B. Monsen  
Year Published: 2004  
Type: Document  
Technical Report or White Paper

### **Effects of thinning and prescribed burning on birds and small mammals**

[www.nrfirescience.org/resource/11504](http://www.nrfirescience.org/resource/11504)

Land management agencies are restoring ponderosa pine forests and reducing fuel loads by thinning followed by prescribed burning. However, little is known about how this combination of treatments will affect local wildlife. In this study, I focus on the following short-term wildlife responses: 1) differences in avian and small...

Author(s): Jennifer Woolf  
Year Published: 2003  
Type: Document  
Dissertation or Thesis

### **Wildlife habitat considerations**

[www.nrfirescience.org/resource/11034](http://www.nrfirescience.org/resource/11034)

Fire, insects, disease, harvesting, and precommercial thinning all create mosaics on Northern Rocky Mountain landscapes. These mosaics are important for faunal habitat. Consequently, changes such as created openings or an increase in heavily stocked areas affect the water, cover, and food of forest habitats. The 'no action'...

Author(s): Helen Y. Smith  
Year Published: 2000  
Type: Document  
Conference Proceedings

### **Wildland fire in ecosystems: effects of fire on fauna**

[www.nrfirescience.org/resource/12584](http://www.nrfirescience.org/resource/12584)

Fires affect animals mainly through effects on their habitat. Fires often cause short-term increases in wildlife foods that contribute to increases in populations of some animals. These increases are moderated by the animals' ability to thrive in the altered, often simplified, structure of the postfire environment. The extent of...

Year Published: 2000  
Type: Document  
Technical Report or White Paper

### **Whitebark pine ecosystem restoration in western Montana**

[www.nrfirescience.org/resource/11251](http://www.nrfirescience.org/resource/11251)

From the Background...'A rapid decline in whitebark pine has occurred during the last 60 years as a result of three interrelated factors: epidemics of mountain pine beetle (*Dendroctonus ponderosae*); the introduced disease white pine blister rust (*Cronartium ribicola*); and successional replacement by shade-tolerant conifers,...

Author(s): Robert E. Keane, Stephen F. Arno  
Year Published: 1996  
Type: Document  
Book or Chapter or Journal Article

### **Effects of fire in the northern Great Plains**

[www.nrfirescience.org/resource/11184](http://www.nrfirescience.org/resource/11184)

Fire has been used inconsistently to manage native and tame grasslands in the Northern Great Plains (NGP) of the north-central U.S. and south-central Canada, particularly the grasslands found in prairies, plains, agricultural land retirement programs, and moist soil sites. This has happened for three primary reasons: (1) the...

Author(s): Kenneth F. Higgins, Arnold D. Kruse, James L. Piehl  
Year Published: 1989  
Type: Document  
Synthesis, Technical Report or White Paper

### **Managing wildlife habitat with fire in the Aspen ecosystem**

[www.nrfirescience.org/resource/11482](http://www.nrfirescience.org/resource/11482)

Much of the nearly 7 million acres (2.86 million ha) of aspen in the western United States is seral to conifers. Also, most aspen stands are old, in excess of 60 years. Proper treatment of these aspen forests will retain the aspen and can produce optimum wildlife habitat. Optimally, all age and size classes of aspen should be...

Author(s): Norbert V. DeByle  
Year Published: 1985  
Type: Document  
Conference Proceedings

### **Fire's influence on wildlife habitat on the Bridger-Teton National Forest, Wyoming - Volume I: photographic record and analysis**

[www.nrfirescience.org/resource/12151](http://www.nrfirescience.org/resource/12151)

The Bridger-Teton National Forest in the Jackson Hole Region of Wyoming has long been recognized for its wildlife resource. Management efforts have emphasized the measurement of forage utilization by elk (*Cervus canadensis nelsoni*) and their effect on summer and winter ranges. Less consideration has been given to other biotic and...

Author(s): George E. Gruell

Year Published: 1980

Type: Document

Technical Report or White Paper

### **Fire's influence on wildlife habitat on the Bridger-Teton National Forest, Wyoming - Volume II: changes and causes, management implications**

[www.nrfirescience.org/resource/12126](http://www.nrfirescience.org/resource/12126)

Provides information on wildlife habitat condition and trend on the Bridger-Teton National Forest in the Jackson Hole Region of Wyoming by analysis of broad plant communities. Visual evidence of condition and trend are provided in Volume I, The Photo Record. Management implications are included.

Author(s): George E. Gruell

Year Published: 1980

Type: Document

Technical Report or White Paper

### **Fire effects on marten habitat in the Selway-Bitterroot Wilderness**

[www.nrfirescience.org/resource/7955](http://www.nrfirescience.org/resource/7955)

In an area of 21 km<sup>2</sup> where fires have produced a mosaic of forest communities, including subalpine fir (*Abies lasiocarpa*), Engelmann spruce (*Picea engelmannii*) and lodgepole pine, results from 255 track observations, 80 captures of 13 live-trapped martens, and scat analysis, over a 13 month period in 1973-1974, suggest that the...

Author(s): Gary M. Koehler, Maurice G. Hornocker

Year Published: 1977

Type: Document

Book or Chapter or Journal Article

### **Positive effects of fire on birds may appear only under narrow combinations of fire severity and time-since-fire**

[www.nrfirescience.org/resource/14589](http://www.nrfirescience.org/resource/14589)

We conducted bird surveys in 10 of the first 11 years following a mixed-severity fire in a dry, low-elevation mixed-conifer forest in western Montana, United States. By defining fire in terms of fire severity and time-since-fire, and then comparing detection rates for species inside 15 combinations of fire severity and time-since-...

Author(s): Richard L. Hutto, David A. Patterson

Type: Document

Book or Chapter or Journal Article